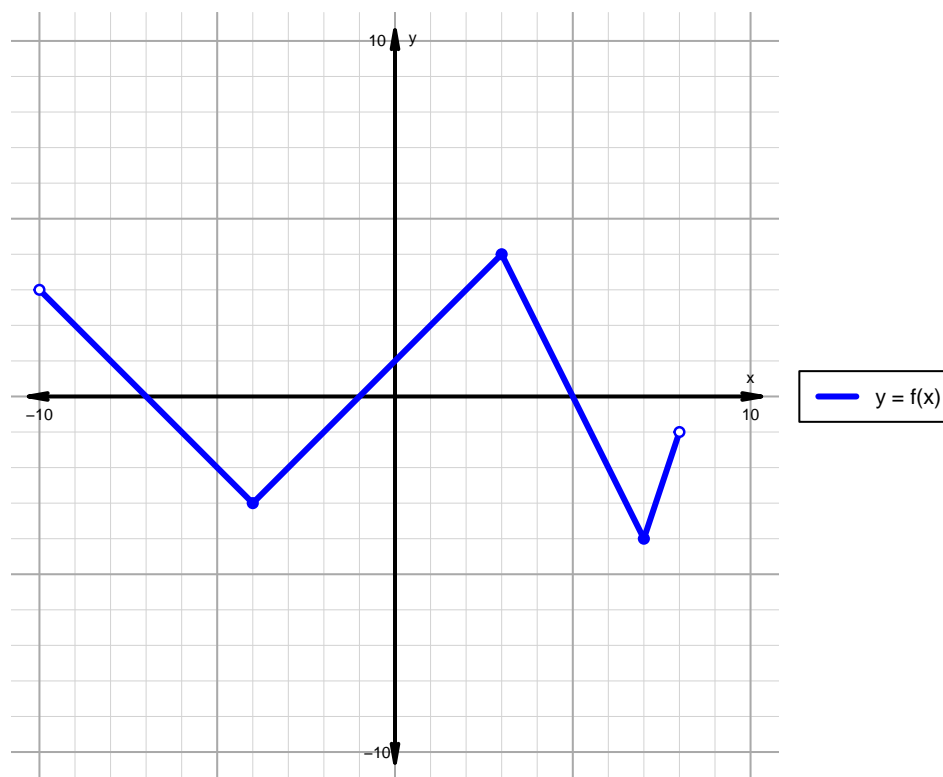


Name: \_\_\_\_\_

Date: \_\_\_\_\_

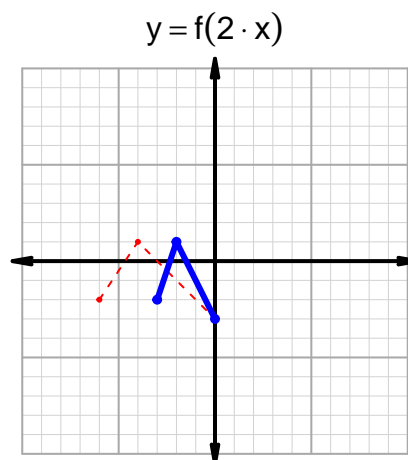
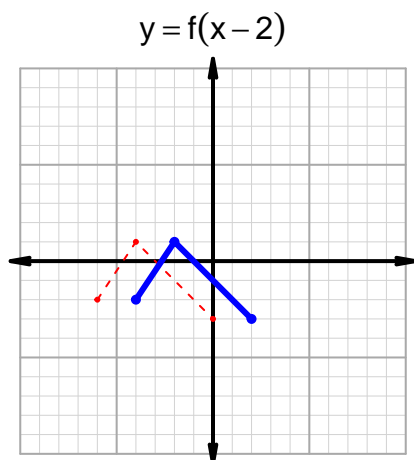
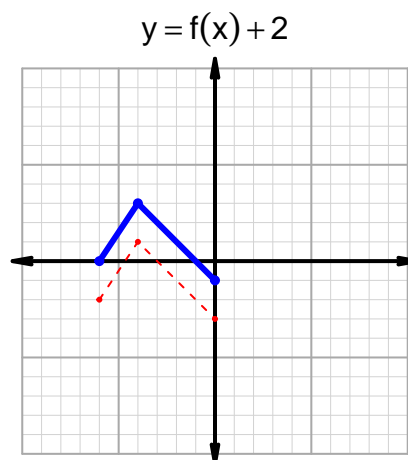
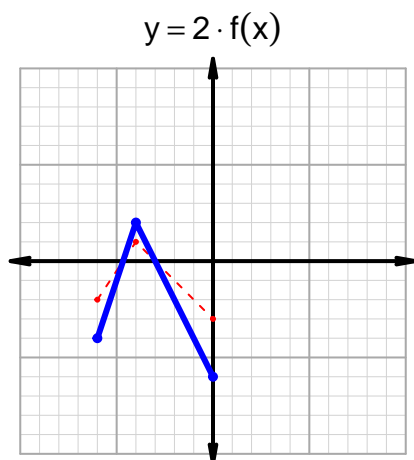
**Intervals, Transformations, and Slope Solution (version 175)**1. The function  $f$  is graphed below.

Indicate the following intervals using interval notation. Remember, you can use  $\cup$  between two intervals to indicate the union. Except for range, all intervals will indicate  $x$  values; this is standard.

Feature	Where
Positive	$(-10, -7) \cup (-1, 5)$
Negative	$(-7, -1) \cup (5, 8)$
Increasing	$(-4, 3) \cup (7, 8)$
Decreasing	$(-10, -4) \cup (3, 7)$
Domain	$(-10, 8)$
Range	$(-4, 4)$

## Intervals, Transformations, and Slope Solution (version 175)

2. In the four graphs below,  $y = f(x)$  is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function  $g$  be defined by the table below. Use the formula  $\frac{g(x_2) - g(x_1)}{x_2 - x_1}$  to find the average rate of change between  $x_1 = 35$  and  $x_2 = 41$ . Express your answer as a reduced fraction.

$x$	$g(x)$
35	69
41	65
65	35
69	41

$$\frac{g(41) - g(35)}{41 - 35} = \frac{65 - 69}{41 - 35} = \frac{-4}{6}$$

The greatest common factor of -4 and 6 is 2. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-2}{3}$$